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MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196			MEHRA, INDER P	
			ART UNIT	PAPER NUMBER
			2666	

DATE MAILED: 08/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/728,359

Applicant(s)

HELM ET AL.

Examiner

Inder P. Mehra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-6,9-12 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-6,9-12 and 14-24 is/are rejected.
- 7) ☒ Claim(s) 14-21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

***Response to Amendment***

1. This is in response to an amendment (Response) dated 4/28/05, which has been fully considered and made of record. Based on this amendment, claims 1, 7, 8 and 13 were cancelled previously, claims 2 (amended four times), 3 (amended twice), 4 (amended once), 5 (amended once), 6 (amended twice), 9 (amended twice), 10 (amended twice), 11 (amended once), 12 (amended twice), 14 (amended twice), 15 (amended four times), 16 (amended once), 17 (amended twice), 18 (amended once), 19 (amended once), 21 (amended once), and 22 (amended four times). claims 2-6, 9-12, and 14-24 are now pending.

***Claim Objections***

2. Claims 2-6, 9-12, and 14-24 are objected to because of the following informalities:

Claim 2 recites the limitation "a multicast group address " in line 5. There is insufficient antecedent basis for this limitation in the claim. This limitation is preceded by the same limitation in line 3, unless these are different addresses. Similar problem exists in lines 5, 6, 11 and 13 of this claim 2, claim 4 (line 2), claim 10 lines 4, 6 and 11, claim 12 line 5,

a. Claim 2 recites the limitation "the one or more network devices" in line 6. There is no antecedent basis for this limitation in the claim 2. Similar problem exists in claim 9 line 2, claim 10 line 3, claim 11 line 2, claim 15 line 16, . .

b. Claim 2 recites the limitation "one or more packets" in line 4. There is insufficient antecedent basis for this limitation in the claim. This limitation is preceded by the same limitation in line 3. Similar problem exists in claim 3, claim 15 line 6

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c. Claim 9 recites the limitation "a join command" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. The same limitation exists in claim 2 in line 6.

d. Claim 11 recites the limitation "a leave command" in line 2. There is insufficient antecedent basis for this limitation in the claim. The same limitation exists in claim 10 in line 3.

e. Claim 15 recites the limitation "a designated time period" in line 20. There is insufficient antecedent basis for this limitation in the claim. The same limitation exists in claim 15 line 14. Similar problem exists in claim 14 line 8, claim 16 line 7.

f. Claim 16 recites "the second attempt" in line 8. It has no antecedent basis.

g. Claim 22 recites "adapted to---" in line 7. Under MPEP 2106, page 2100-8, Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.

Appropriate correction be made.

h. Claim 23 recites the limitation "the group" in line 2 There is insufficient antecedent basis for this limitation in the claim 2. In claim 2, "multicast group address" is recited in line 3.

i. Claim 23 recites the limitation "the participating host" in line 1. There is no antecedent basis for this limitation.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2, 12 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by **Cotton et al** (US Patent No. 4,740,954), hereinafter, Cotton.

For claims 2, 12, and 22, Cotton discloses, multicast network (refer to figs. 1-3, multi-cast communication involving multi-cast switches); a method comprising:

- at a first host (D) , wherein the first host is an endpoint of the multicast network (fig. 1) that receives one or more packets addressed to multicast group address (M), refer to col. 3 lines 50-67);
- receiving indicia (enter tuple) that a second host is actively sourcing one or more packets addressed to a multicast group address.(M) wherein the second host is an endpoint of the multicast network (refer to col. 3 lines 36-67);
- issuing a join command to the one or more network devices in an attempt to join the multicast group address, (refer to col. 3 lines 10-19;
- determining whether any packets are received within a designated time period after the step of issuing a join command, refer to col. 2 lines 50-58; and if any packets are received by the first host within the designated time period, determining that the first host is joined to the multicast group address', otherwise, if any packets are not received by the first host within the designated time period, determining that the first

host is not joined to the multicast group address, (the timing parameter may be periodically stepped between any initial value and any final value at which point the associated table entry is cleared, refer to col. 3 lines 50-68).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over

**Cotton, as above**, in view of **Kumar et al** (US Patent Application No.2003/0043804),

hereinafter Haggerty .

For claims 3-4 and 6, Cotton discloses all the limitations of subject matter of claims 3-4 and 6 with the exception of the following limitations, which are disclosed by Kumar, as follows:

- wherein the packet is one of a test packet and a payload packet, **as recited by claim 3**, (refer to Kumar paragraph 0024).
- wherein the payload packet comprises any one of an audio payload, a data payload, deo payload, and a multimedia payload **as recited by claim4** , ph 0024).
- . \* the step of receiving a call grant message comprising the multicast group address, **in claim 6**, refer to paragraph 0036;

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A person of ordinary skill in the art would have been motivated to employ Kumar's multi-cast switching system into Cotton's multicast routing algorithm in order to have the capability of using "call grant" message. This capability can be built into controller as taught by Kumar. The suggestion/ motivation to do so would have been to have the benefit of distributed connection and mobility processing.

7. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cotton et al** (US Patent No. 4,740,954), hereinafter Cotton in view of **Wagner** (US Patent Application No.2002/0006159), hereinafter, Wagner.

For claim 5, Cotton discloses all the limitations of subject matter with the exception of the following limitations, which are disclosed by Wagner, as follows:

- receiving multiple test packets before sending payload, refer to paragraph 0036

A person of ordinary skill in the art would have been motivated to employ Wagner's system, into Cotton's multicast routing algorithm in order to have packets include audio/video payload and test packets. The suggestion/ motivation to do so would have been logical to reduce the number of errors in the system. It would have been obvious to a person of an ordinary skill in the art that the use of audio/video data transmission system is capable of multi-casting to large number of receivers.

8. Claims 9 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cotton, as above, in view of Haggerty et al** (US Patent No.6,331,983), hereinafter Haggerty .

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For claims 9 and 23-24, Cotton discloses all the limitations of subject matter of claims 9 and 23-24, with exception of the following limitations, which are disclosed by Haggerty, as follows::

- the step of issuing a join command comprises, sending an IGMP Join message to one or more network devices, **as recited by claim 9** refer to col. 14 lines 28-30, col. 17 lines 22-23 and col. 18 lines 51-52.
- wherein the first and second hosts are selected from the group consisting of: a portable wireless communication device, a mobile wireless communication device, --  
--and a gateway, **as recited by claims 23 and 24.**

A person of ordinary skill in the art would have been motivated to employ Haggerty's multi-cast switching system into Cotton's multicast routing algorithm in order to have the capability of using "IGMP join" message. This capability can be built into controller as taught by Haggerty. The suggestion/ motivation to do so would have been to have the benefit of learning of existing group members, distributed connection and mobility processing.

9. Claims 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cotton**, as above, in view of **Haggerty et al** (US Patent No. 6,331,983), hereinafter Haggerty, and further in view of **Adelman et al** (US Patent No.6,006,259), hereinafter Adelman.

For claims 10, and 11, Cotton discloses **determining whether any packets are received within a designated time period----**( refer to "host sending packets to the multicast address in time interval, smaller than max time to insure joining the group and table is not cleared); further discloses, "if packets are not received ----within the designated time period, determined that the



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first host is not joined ---to the group”, (refer to “if joined after the designated time interval, it is not accepted and relevant entries in the table cleared”), refer to col. 3 lines 10-27.

Haggerty discloses the method of claim 2 further comprising:

- **issuing a leave command** (refer to announcement signal on leaving a group to the one or more network devices, refer to col. 21 lines 37-38;
- **re-attempting to join the multicast group address** (IGMP state machine to facilitate hosts join multicast group and reliable delivery setting a timer to ensure reliably join the multicast group refer to col. 17 lines 22-24 and 39-42);
- **determining whether any packets are received by the receiving host within a designated time period** (refer to reliable delivery setting a timer to ensure reliably join the multicast group (), col. 17 lines 22-24 and 39-42;
- if a timer expires without any reports, there are no receivers for that group (**if packets are not received by the receiving host within the designated time period, determining that the receiving host is not reliably joined to the multicast group**), refer to col. 19 lines 29-51;

Haggerty, further discloses IGMP leave message, **recited in claim 11**, for leaving multicast group; refer to col. 21 lines 35-38; and announces to all switches (sending an IGMP leave message to one or more local network devices), refer to col. 21 lines 35-38;

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Cotton and Haggerty do not disclose expressly re-attempting to join the multi-cast group address, even though Haggerty discloses hosts want to join multicast groups, refer to col. 17 lines 39-42;

Adelman discloses cluster member/cluster client will try to join the cluster **again** (re-attempting to reliably join the multi-cast group address;

A person of ordinary skill in the art would have been motivated to employ Adelman's network clustering system and Haggerty's multi-cast switching system into Cotton's system in order to ensure the receiver having reliably joined within specified time or leave with IGMP message. The suggestion/ motivation to do so would have been logical to have timer set to a value no less than the IGMP interval and monitor the arrival before the expiry of timer. It would have been obvious to a person of an ordinary skill in the art that the use of timer is an efficient and guaranteed technique to ensure the reliable join by receivers and use IGMP Leave message to leave multi-cast group.

#### ***Allowable Subject Matter***

10. Claims 14-21 would be allowable if rewritten or amended to overcome the rejection(s) under "Claim Objection", set forth in this Office action.

#### ***Response to Arguments***

11. Applicant's arguments filed 4/28/05, in regard to claims 2-6,9-12, and 14-24 have been fully considered but they are not persuasive.

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Applicant argues , "Applicants' have added a limitation to independent claims 2, 15, and 22 so that Applicants', claimed invention is "independent of the multicast network." Further, Applicants' argue that support for the new limitation is found is found in Applicants' specification.

Applicants have amended the claims to more clearly specify that the claimed invention pertains to "a first host" where the "first host" is "an endpoint" of a multicast network. The prior art references pertain to the "network" and not the "endpoints." The prior art references teach or suggest modifications to the "network" whereas our claimed invention is drawn to "endpoints." Applicants attempted to clarify this distinction by making the November 2002 amendments where language adding "receiving indicia" was added and language to "sending" was deleted. Applicants note that this case has been in prosecution for over four years. The first office action was favorable and asked that Applicants make amendments that would place the case in the form for allowance. That is the Examiner had objections to Claims 2, 15, and 16, which the Applicants responded by amending the claims as the Examiner had requested. Since that time, Applicants have continuously received rejection after rejection. Applicants have tried to move the case forward and have had telephone conferences to clarify continuing rejections where each time the Examiner seemed to understand Applicants claimed invention to be patentable over the prior art. With each continuing rejection, Applicants view the Examiner's office actions as refinements to previous office actions and view the Examiner as using impermissible hindsight to combine references to arrive at Applicants claimed invention.

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In response, it is stated that Cotton discloses the use of devices illustratively and numerous alternative embodiments may be devised by those skilled in the art, refer to col. 5 lines 10-15. Cotton discloses tuple (Indicia) message , as explained above in office action.

However, Haggerty discloses explicitly, "Protocol independent Multicast-Dense Mode" (Indicia), refer to col. 15 line 3; "independent of spanning tree used for the multicast", refer to col. 14 lines 59-61. Further, Fig. 1 used by Haggerty is for example only, refer to col. 10 lines 40-43.

***In the light of above explanation, the arguments by applicant are not persuasive.***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P. Mehra whose telephone number is 571-272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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